

edged by a black line; cilia shining fuscous. Hind wing brown, concolorous with darker part of fore wing; cilia slightly paler with a dark basal band.

Alar expanse.—9-10 mm.

Type.—Cat. no. 26295 U. S. N. M.

Paratypes.—In National Collection and collection Cornell University (Cornell paratype No. 665).

Type locality.—Hyattsville, Maryland.

Food plant.—*Pinus taeda* (pitch nodule on).

Described from female type reared March 22, 1915, under Hopkins U. S. no. 12190a from larva taken feeding in pitch nodule on gallery of *Petrova comstockiana* Fernald in *Pinus taeda* (August Busck, collector); one male paratype without locality and labeled, "from galls of *Pinus taeda*, Aug. 7, 82;" one male paratype without locality, labeled, "no. 282501 Aug. 14, 82" (specimen without abdomen, head and right fore wing, but wings on left side in very good condition); and one paratype from Biloxi, Mississippi ("June 13, 1917, Cornell University, Lot 542, sub 11").

An easily recognized species, in pattern similar to *toreuta* Grote and *piparana* Kearfott but much smaller.

A REPORT ON A COLLECTION OF COCCIDAE FROM ARGENTINE II. (HEMIPTERA COCCIDAE).¹

BY HAROLD MORRISON, U. S. Bureau of Entomology.

In 1919 the writer published under the above title, an article discussing a collection of scale insects received by the Bureau of Entomology from Sr. P. Jorgensen. This collection was obtained in various parts of the Argentine Republic during the period 1909 to 1911. At the time of publication it was believed that all the specimens received from Sr. Jorgensen had been examined, but it was subsequently discovered that, due to the crowded condition of the general coccid collection at the U. S. National Museum, some of his material had been stored separately and had not been located at the time the bulk of the collection was studied. Under such circumstances it seems desirable to place on record the remainder of the species included in this material and to make some additions and correct some errors which, on Sr. Jorgensen's authority, appeared in the earlier paper.

A correction which needs particular notice is the following: Bomplana, Misiones Territory should be Bompland. The writer followed Stieler's Atlas of Modern Geography, 9th Edition, Gotha, 1912, which gives both in the index and on the map of this section of Argentine this name as "Bomplana," but he has been advised by Sr. Jorgensen that this is in error.

¹Proc. Ent. Soc. Wash. Vol. 21, No. 4, Apr. 1919, pp. 63-91.

He states further that the host of *Icerva minima* Morrison is *Suada divaurata* Mag. (Chenopodiaceae); that of *Asterolecanium viridulum* Cockerell is *Eupatorium* (Compositae); that of *Eriococcus mendozae* Morrison is *Prosopis alpataco* (Leguminosae); that of *Eriococcus leguminicola* Morrison is *Caesalpinia* sp. (Leguminosae) only; those of *Eriococcus brasiliensis* Cockerell are *Baccharis tridentata* Vahl. (22 c) and *Baccharis oxydonta* (710 b) (Compositae); that of *Erium armatum* (Hempel) is *Condalia lineata* A. Gr.; those of *Tachardia lycii* Leonardi are *Lycium gracile* M (3h) and *Lycium chilensis* B. (39c) (Solanaceae); one of *Ceroplastes grandis* Hempel (395a) is *Helietta cuspidata* Engl. (Rutaceae) and not *Actimostema lanceolata* as stated; one of *Ceroplastes novaesi* Hempel (721h) is *Baccharis serrutulae* and not merely "Compositae"; that of *Ceroplastes deciduosus* Morrison is *Sapium biglandulosum* (Euphorbiaceae) and not "Lapium"; that of *Ceroplastodes misiones* Morrison is *Baccharis oxydonta*; and that of *Saissetia argentina* Morrison is *Prosopis alpataco* (Leguminosae).

In addition Sr. Jorgensen has called attention to the following typographical errors that should be corrected: page 77 under *Ceroplastes grandis* Hempel, "*Vitex montividiensis*" should read "*Vitex montividensis*"; page 82, under *Akermes bruneri* Cockerell "*Celts itala*" should be "*Celtis tala*."

The writer is indebted to Miss Mabel Stehle for the figures of *Aspidiotus latastei* and to Miss Amalia Shoemaker for the remaining figures accompanying this paper.

The following species have been recognized in that portion of Sr. Jorgensen's collection which was not located until after the publication of the previous paper:

Family **Coccidae.**

Subfamily **Monophlebinae.**

Genus **Icerya** Signoret.

Icerya subandina Leonardi.

Specimens readily recognizable as this species are present, collected on *Bulnesia retama* (Zygophyllaceae); Cordillera de Mendoza, Feb. 8, 1909. (Jorg. No. 8.)

Subfamily **Coccinae.**

Genus **Lecanium** Burmeister.

Lecanium perinflatum Cockerell.

There is one lot of this species on *Cestrum paraguayi* (Solanaceae) collected at Buenos Aires, Feb., 1909 (Jorg. No. 25) among Sr. Jorgensen's specimens.

Lecanium viticis, new species.

Occurring on the twigs of the host, typically closely clustered.

Adult female.—Fully matured adult female normally strongly convex, approximating hemispherical; average size, length 3.25 mm., width 3 mm., height 3 mm., but quite variable and usually much distorted through crowding on the host twigs; body colors light reddish and yellowish brown, these variously intermingled and often irregularly mottled with black; upper surface of body more or less shining, usually smooth in the discal area but with the margins strongly wrinkled and rugose and the intermediate area often pitted; anal cleft distinct, its margins reflexed; derm retaining most of its yellow-brown color after treatment with potassium hydroxide and showing small "pores" much as in the North American species, these "pores" mostly widely separated, but much more abundant and sometimes tending to cluster along the body margin and in a narrow median band extending anteriorly from the anal plates, in this last respect resembling *L. prunastri* (Fonsc.) except that the pores in the band are much fewer in number and distinctly less crowded than in *prunastri*; antennae small but elongate, at most indistinctly 5-segmented, the total length of one about 214 μ ; legs also small but not reduced, length of a posterior leg about 535 μ ; tarsal digitules slender, knobbed, those of claw stouter, swollen towards apices, these last extending well beyond the tip of the stout, curved claw; true dorsal pores and ducts largely obscured through the chitinization of the derm but probably with nearly, if not all, of the clear "pores" in the derm with tubular ducts in their centers; with a few quinquelocular disk pores ventrally between each spiracle and the body margin and with a number of much larger multi-ocular disk pores, each having 10-12 loculi, beneath and around the anal plates; no setae observed dorsally excepting only a submarginal row close to and paralleling the row of marginal setae; these marginal setae large and stout as compared with those of the North American forms, length varying considerably, the maximum about 32 μ ; spiracular spines fairly stout, in threes, the median much the longest, about 64 μ , the two laterals often unequal, averaging about 21 μ ; each anal plate rather broad triangular, length about 178 μ ; width about 107 μ ; the antero-lateral margin longer than the postero-lateral, and the latter thickened and vertically incised at about its middle, each plate bearing two dorsal setae close to the apex, a single seta at the margin of the apex and three or four ventral ridge setae spaced about equidistant; with two fringe setae on each side, the outer about twice the length of the inner, placed well within the anterior end of the ventral ridge, the inner fairly close to the middle line and approximating the position of the upper hypopygial setae in those species possessing these structures; anal ring approximately circular, not particularly stout, cellular and with six setae.

Larva.—As mounted, rather elongate oval, length 464 μ ; width 250 μ ; antennae rather long and slender, 6-segmented, the measurements of one in microns as follows: I, 18; II, 14; III, 39; IV, 29; V, 25; VI, 46; each segment beyond the second bearing a long curved spine and one or more setae of various lengths and sizes of which the longest approaches the length of the antenna; legs not unusual, bearing several long hairs, apparently with only a single long thread-like tarsal digitule extending beyond the tip of the claw on each leg, one claw digitule slender, thread-like, the other knobbed at apex; body dorsally with a marginal, a submedian, and on the thorax, an intermediate series of large and conspicuous double or 8-shaped pores on each half, these resembling those occurring in the

larva of *Akermes bruneri* except for the slight but distinct invagination of the pores in the latter; with three or four quadrilocular disk pores between each spiracle and the body margin; marginal setae of moderate length, fairly stout, middle spiracular spine long and stout, often faintly swollen near apex, the two laterals very much shorter, more or less distinctly lanceolate, ventrally with a submedian and two submarginal rows of small setae at least in the posterior abdominal region; each anal plate elongate, slender, triangular, the upper surface appearing irregularly rugose, the inner face somewhat sinuate, with a long apical seta about three-fourths the length of the body, a much shorter subapical seta on each side of this, a single ventral ridge seta, a single fringe seta and two small acute teeth about the middle of the postero-lateral edge of each plate; anal ring cellular, bearing six setae, the upper two of which are somewhat smaller than the others.

This species has been described from seven mounted adults, several mounted larvae and some additional unmounted material, all collected by Sr. Jorgensen at Misiones, October, 1910, on *Vitex montevidensis* (Jorg. No. 322e).

The types are in the U. S. National Collection of Coccidae.

This species appears to differ strongly from the common North American forms in the development of the 8-shaped pores in the larva, but the adult female shows no correspondingly conspicuous evidence of differentiation.

Subfamily **Diaspinae**.

Genus **Leucaspis** Targioni.

Leucaspis pusilla Loew.

This species is represented in the collection by four lots of material from Buenos Aires, collected May, 1911, as follows: on *Pinus insignis* (No. 13); on *Pinus* sp. (No. 14); on *Pinus canadensis* (No. 15) and on *Pinus pinea* (No. 16). Figures showing the pygidia of the adult and preadult females are appended to facilitate recognition.

Genus **Aspidiotus** Bouché.

Aspidiotus hederæ (Vallot).

To the single record of this species in the previous paper should be added the following collections from Buenos Aires: May, 1911: on *Nerium oleander* (Jorg. No. 5); on *Acacia leptophylla* (Jorg. No. 6); on *Acacia melanoscylon* (Jorg. No. 9); on *Pittosporum undulatum* (Jorg. No. 18); on *Olea europea* (Jorg. No. 19); and from La Plata, May, 1911, on *Acacia lophanta* (No. ?).

Aspidiotus latastei Cockerell.

This species, originally described from Chile, is represented in the Jorgensen Collection by two lots of material, both from Buenos Aires, collected May, 1911, on *Euonymus japonica* (Jorg. No. 1) and on *Ficus benjamini* (Jorg. No. 2.). A figure of the

pygidium of the adult female which should assist in the recognition of the species, is included.

Genus **Chrysomphalus** Ashmead.

Chrysomphalus aonidium (Linn.)

This very common and widespread species was found in two lots of material from Buenos Aires, collected in May, 1911, one on *Olea fragrans* (Jorg. No. 20), and the other on *Citrus aurantium* var. *dulce* (Jorg. No. 21).

Chrysomphalus dictyospermi var. **pinnulifera** (Mask.).

As the status of this form is somewhat doubtful, and is at present the subject of some study on the part of coccidologists, the writer has followed Lizer¹ in giving Maskell's name to it. The record is based on a single collection from Buenos Aires, May, 1911, on *Citrus aurantium* var. *dulce* (Jorg. No. 21).

Chrysomphalus paulistis Hempel.

This species was collected by Sr. Jorgensen at Buenos Aires, May, 1911, on *Ligustrum paniculata* (Jorg. No. 4) and on *Laurus nobilis* (Jorg. No. 7). It has already been recorded from Argentina and has been figured by Lizer.

EXPLANATION OF PLATE.

Fig. 1-7, incl.—*Lecanium viticis*, new species.—1. larva, outline dorsal and ventral, X 80; 2. same; marginal and spiracular spines, X 360; 3. adult female, marginal seta, X 360; 4. same, antenna, X 80; 5. same, leg. X 80; 6. same, marginal and spiracular spines. X 153; 7. same, anal plates, X 153.

Fig. 8, 9. *Leucaspis pusilla* Loew.—8. pygidium of preadult female X 230; 9. pygidium of adult female, with additional figures showing variation in marginal fringe, X 230.

Fig. 10, 11. *Aspidiotus latastei* Ckll. 10. adult female, outline of body, X 40; 11. same, pygidium, X 153.

THREE NEW TERMITES FROM THE CANAL ZONE, PANAMA.

By THOMAS E. SNYDER, *Bureau of Entomology.*

In recent papers, as yet unpublished, the habits of 22 species of termites from the Canal Zone and nearby portions of the Republic of Panama have been described by the writer in collaboration with Messrs. H. F. Dietz and J. Zetek. Most of

¹Physis, Comunicaciones. No. 10 t. II. p. 177, Feb., 1916.